Case 3158

Helix lucorum Linnaeus, 1758 and *Helix punctata* Müller, 1774 (currently *Otala punctata*; Mollusca, Gastropoda): proposed conservation of usage of the specific names by the replacement of the syntypes of *H. lucorum* with a neotype

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Abstract. The purpose of this application is to conserve the accustomed understanding and usage of the names for two European pulmonate gastropods, *Helix lucorum* Linnaeus, 1758 and *Otala punctata* (Müller, 1774) (family HELICIDAE). The two existing syntypes of *H. lucorum* are specimens of *O. punctata* and it is proposed that these be set aside and a neotype designated in accord with accepted usage. The species *Helix lucorum* as currently understood is found from Italy eastwards through to the former USSR and has been introduced in France; *O. punctata* is present in the south of France, Spain and the north of Morocco. Both the names *H. lucorum* and *O. punctata* refer to two of the most commercialised terrestrial snails of the food industry.

Keywords. Nomenclature; taxonomy; Gastropoda; Pulmonata; HELICIDAE; *Helix lucorum*; *Otala punctata*; edible snails.

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1. Linnaeus (1758, p. 773) described *Helix lucorum* in the 10th edition of the *Systema Naturae* under the species number 605. In the 12th edition (1767, p. 1247), the species description, then numbered 692, was identical. Linnaeus (1758, 1767) cited only one reference, that of the figure by Gualtieri (1742, pl. 1, fig. C); the habitat was given as 'Europa'. Gualtieri's figure and Linnaeus's description could refer to forms of what is widely known as *Helix lucorum*.

2. One syntype of *Helix lucorum*, marked '692' (handwritten), is in the collection of the Linnean Society of London. However, it is clearly not a specimen of a species of *Helix* as now understood but is referable to *Otala punctata* (Müller, 1774, p. 21). Mollusc specimens, when large enough, were marked by Linnaeus with their names or with their numbers corresponding to those in either the 10th or the 12th edition of *Systema Naturae* (see Dodge, 1952). The number marked on the London specimen is not very clear and we have therefore considered other plausible interpretations. However, none of the other numbers which are possible interpretations of the label

could be safely attributed in either the 10th or the 12th edition to another species included in the genus *Helix* in its present use. Since Linnaeus's death in 1778 his shell collection has several times been mishandled and adulterated (notably by Henry Sowerby and S. Hanley) leaving it in an unreliable state (see Dance, 1967). Dance, when he revised the collection in 1963, separated the shell '692' from a batch of mixed specimens and identified it as *H. lucorum* Linnaeus, 1758 (the only label present).

3. Another syntype of *Helix lucorum* is in the collection of the Uppsala University Zoological Museum. Like the London syntype, it is a specimen of *Otala punctata* (Müller, 1774), as noted by Wallin (1994). It seems that this syntype is the sole specimen of *H. lucorum* Linnaeus in Uppsala which remains today (Odhner, 1953, MS and Dr Mats Eriksson, Museum of Evolution, Uppsala, personal communication) although 24 specimens once existed (see Holm, 1957, p. 16).

4. Thus, the two specimens from the Linnean collections are both *Otala punctata*. There is little doubt that they are syntypes of Linnaeus's nominal taxon *H. lucorum*. The short description by Linnaeus (1758, 1767) might fit the syntype specimens, but these match very poorly Gualtieri's (1742) illustration. It may be noted that references given by Linnaeus often contained errors, citing a wrong plate or figure. For many species he also used figures of several related but quite distinct shells (see Dodge, 1953).

5. Müller (1774, p. 46) repeated the descriptions of both Gualtieri (1742) and Linnaeus (1758, 1767), followed by a more detailed description of what he called '*H. lucorum*'. Müller's description is detailed enough to recognise his zoological taxon, which is not that of Linnaeus. Müller wrote that the species came from Italy, where there are no species of *Otala* Schumacher, 1817. Gualtieri's figure is closer to Müller's taxon than to an *Otala* species. Many subsequent authors probably used Müller's work because Linnaeus's description was too vague and this was the source of the subsequent confusion. The first potentially valid name for the species described by Müller (1774) under the name *H. lucorum* is *H. mutata* Lamarck, 1822 (see para. 7 below) but this name has never been adopted for the taxon.

6. Schröter (1784, p. 159) was the first to remark on the discrepancies between the concepts of Linnaeus (1758) and Müller (1774) under the name *Helix lucorum*. Gmelin (1791, p. 3649) repeated Linnaeus's (1758) description of *Helix lucorum*. He also referred to Gualtieri's (1742) and Müller's (1774) accounts of the species but Müller's was quoted with a question mark, expressing doubt. In contrast, Gmelin cited an untitled figure published by Lister (1770, pl. 1058, fig. 1.2) which illustrates a specimen from Portugal, most probably an *Otala* species. It must be noted that Müller's zoological taxon *H. lucorum* is unknown from Portugal, in contrast to *Otala* species, and that Lister illustrated a shell under the name *H. lucorum* on a different plate (pl. 49, fig. 47). After Gmelin (1791) all authors used *H. lucorum* for the species described by Müller (1774), crediting the name to Linnaeus (1758) or to Müller (1774).

7. In 1801 Olivier (p. 13) described *Helix castanea* from Turkey as a new species. This name is a junior primary homonym of *H. castanea* Müller, 1774 (pp. 67–68). Férussac (1821, p. 29) recorded Olivier's nominal taxon as being the same as *Helix lucorum* 'Müller, 1774'. Lamarck (1822, p. 67) established *H. mutata* as a replacement name (nomen novum) for *H. castanea* Olivier, considering the taxon to be distinct from *H. lucorum* sensu Müller.

8. Like the earlier authors mentioned above, Hanley (1855, p. 378) noted the contradiction between Linnaeus's (1758) description of *Helix lucorum* and Gualtieri's (1742) figure. He considered that the London specimen did not correspond to Linnaeus's description and identified it as *Otala lactea* (Müller, 1774), and not *O. punctata* (Müller, 1774) as we do. He concluded that *H. lucorum* 'must be termed, for the future, the *lucorum* of Müller, and not of Linnaeus'. Following Hanley, several authors in the 19th and 20th centuries attributed the name *H. lucorum* to Müller (1774) (see, for example, Wood, 1856, p. 171; Pfeiffer, 1868, p. 234; Rossmässler, 1876, p. 18; Grossu, 1983, p. 519). Zilch (1952) attributed *H. lucorum* to Linnaeus (1758) in the text (p. 154) but to Müller (1774) in the legend of his figure (p. 168). All other authors credited the name *H. lucorum* to Linnaeus (1758).

9. The name *Helix lucorum* as universally used refers to an edible species and one of the most commercialised terrestrial snails. The species is of concern not only to taxonomists but also to the food industry, control agencies and collectors. In recent years the name has been used in the fields of ecology, physiology, biology, behavior and conservation. It has consistently been used in the sense of Müller's (1774) description (i.e. *H. mutata* Lamarck, 1822). Representative publications in which the name has appeared in this sense include Cesari (1978), Schileyko (1978), Lazaridou-Dimitriadou & Daguzan (1980), Richardson (1980), Blanc & Allemand (1993) and Zakharov (1998). A list of 33 selected additional references by 40 authors and dating from 1921 to 1997 which demonstrate the usage of the name *H. lucorum* is held by the Commission Secretariat.

10. Acceptance of the London and Uppsala specimens as syntypes of *Helix lucorum* Linnaeus, 1758 would mean that the name *lucorum* would become a senior subjective synonym of *punctata* and a new name would be required for *lucorum* as long understood. As noted above (para. 7), the first potentially valid name for the latter is *H. mutata* Lamarck, 1822. A transfer of the name *lucorum* to the species currently called *punctata*, and introduction of the unused name *mutata* in place of *lucorum* as universally used, would cause considerable and unnecessary confusion. We therefore propose that the syntypes of *H. lucorum* be set aside and a neotype be designated in accord with accustomed usage. One large and one small specimen, both showing the reflected lip characteristic of adults, in the Zoological Museum of the University of Copenhagen, identified by earlier curators as original Müller material and labelled as 'types', are consistent with Müller's (1774) text under the name *H. lucorum* and universal current usage. One label on the large specimen bears a record 'from M.' which refers to Müller (Dr Tom Schiøtte, ZMUC, personal communication). Two labels on the small specimen bear the locality 'Italia'. Morphometrical measurements have been taken on both specimens and incorporated in the multivariate analysis in our forthcoming paper on this species. We propose that the smaller specimen (length 32.71 mm, diameter 39.96 mm), which is intact, be designated as the neotype of *H. lucorum*. The specimen now has an additional label in its box written by ourselves denoting its (potential) neotype status. This designation will maintain the usages of both *H. lucorum* Linnaeus and *O. punctata* (Müller). Müller (1774, p. 21) described *Helix punctata* from Italy; two specimens in one batch, also in the Zoological Museum of the University of Copenhagen, were labelled as 'types' by an earlier curator.

11. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to set aside all previous type fixations for the nominal species *Helix lucorum* Linnaeus, 1758 and to designate the specimen labelled as the neotype (length 32.71 mm, diameter 39.96 mm) in the Zoological Museum of the University of Copenhagen as the neotype;

(2) to place on the Official List of Specific Names in Zoology the following names:
   (a) *lucorum* Linnaeus, 1758, as published in the binomen *Helix lucorum* and as defined by the neotype designated in (1) above;
   (b) *punctata* Müller, 1774, as published in the binomen *Helix punctata*.

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